

REMARKS

In response to the above-identified Office Action, Applicant traverses the Examiner's rejection to the claims and seeks reconsideration thereof. In this response, claims 8 and 19 are amended, claims 1-7, 10, 21 and 24-26 are cancelled, no claims are added. Claims 8-9, 11-20 and 22-23 are now pending in the present application.

The instant application is directed to a method for fabricating a semiconductor device, comprising the steps of providing a silicon substrate on which predetermined processes are completed; performing a plasma treatment to a surface of the silicon substrate in a gaseous atmosphere including nitrogen for about 30 seconds to about 60 seconds at a temperature ranging from about 400 °C to about 450 °C and a pressure ranging from about 3 Torr to about 5 Torr along with power ranging from about 400 W to about 500 W; depositing a titanium layer on the silicon substrate by employing a physical vapor deposition (PVD) technique; and causing the silicon substrate to react with the deposited titanium layer through the use of a thermal treatment to form an epitaxially grown titanium silicide layer having a phase of C49.

I. Claim Amendments

Applicant respectfully submits herewith amendments to claims 8 and 19. Claims 8 and 19 are amended to recite that the plasma treatment to a surface of the silicon substrate is performed "for about 30 seconds to about 60 seconds at a temperature ranging from about 400 °C to about 450 °C and a pressure ranging from about 3 Torr to about 5 Torr along with power ranging from about 400 W to about 500 W." Applicant respectfully submits the amendments to claims 8 and 19 were previously recited in now cancelled claims 10 and 21. Thus, the amendments are supported by the specification and do not add new matter. In view of the foregoing, Applicant respectfully requests consideration and entry of the amendments to claims 8 and 19.

II. Claim Rejections – 35 U.S.C. §102(b)

The Examiner rejects claims 8, 9, 11-14 under 35 U.S.C. 102(b) as being anticipated by Jin et al., (Hynix Semiconductor Inc. 200KR-0037382). Applicant respectfully traverses the aforementioned rejection for at least the following reasons.

Anticipation may only be established if “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

In regard to independent claim 8, Jin fails to teach a plasma treatment to a surface of a silicon substrate performed for about 30 seconds to about 60 seconds at a temperature ranging from about 400 °C to about 450 °C and a pressure ranging from about 3 Torr to about 5 Torr along with power ranging from about 400 W to about 500 W as recited in amended claim 8. The Examiner has not pointed to, and Applicant is unable to discern a portion of Jin teaching at least this element of claim 8. Since Jin fails to teach each and every element of claim 8, anticipation may not be found. For at least the foregoing reasons, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 8 under 35 U.S.C. §102.

In regard to claims 9 and 11-14, these claims depend from claim 8 and incorporate the limitations thereof. Thus, for at least the reason that claim 8 is not anticipated by Jin, claims 9 and 11-14 are further not anticipated by Jin. In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 9 and 11-14 under 35 U.S.C. §102.

III. Claim Rejections – 35 U.S.C. §103(a)

The Examiner rejects claims 17-20 under 35 U.S.C. 103(a) as being unpatentable over Jin et al. in view of U. S. Application No. 2002/0171107 applied for by Cheng et al. ("Cheng"). Applicant respectfully traverses the aforementioned rejection for at least the following reasons.

To render a claim obvious, the relied upon references must disclose every limitation of the claim such that the invention as a whole would have been obvious at the time the invention was made to one skilled in the art. MPEP §2143. Furthermore, there must be a showing of suggestion or motivation to modify or combine the teachings of those references. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

In regard to claims 17-18, these claims depend from claim 8 and incorporate the limitations thereof. Thus, at least for the reasons previously discussed in the traversal of the rejection of claim 8 over Jin, Jin fails to teach or suggest a plasma treatment to a surface of a silicon substrate performed for about 30 seconds to about 60 seconds at a temperature ranging from about 400 °C to about 450 °C and a pressure ranging from about 3 Torr to about 5 Torr along with power ranging from about 400 W to about 500 W. The Examiner has not pointed to, and Applicant is unable to discern a portion of Cheng curing the deficiencies of Jin with respect to this element. Since neither Jin nor Cheng, alone or in combination, teach or suggest every element of claims 17-18, a *prima facie* case of obviousness may not be established. For at least the foregoing reasons, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 17-18 under 35 U.S.C. §103.

In regard to independent claim 19, for at least the reasons discussed above, Jin fails to teach or suggest a plasma treatment to a surface of a silicon substrate performed for about 30 seconds to about 60 seconds at a temperature ranging from about 400 °C to about 450 °C and a pressure ranging from about 3 Torr to about 5 Torr along with power ranging from about 400 W to about 500 W as recited in amended claim 19. The Examiner has not pointed to and Applicant is unable to discern a portion of Cheng curing the deficiencies of Jin with respect to this element. Since neither Jin nor Cheng, alone or in combination, teach or suggest every element of claim 19, a *prima facie* case of obviousness may not be established. For at least the foregoing reasons, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 19 under 35 U.S.C. §103.

In regard to claims 20 and 23, these claims depend from claim 19 and incorporate the limitations thereof. Thus, for at least the reasons that claim 19 is not *prima facie* obvious over Jin in view of Cheng, claims 20 and 23 are further not obvious over Jin in view of Cheng. In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 20 and 23 under 35 U.S.C. §103.

IV. Allowable Subject Matter

Applicant respectfully notes with appreciation the Examiner's indication that claims 10, 15, 16, 21 and 22 are objected to but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 10 and 21 have been cancelled and the limitations of these claims have been recited in amended claims 8 and 19. Thus, the objection to claims 10 and 21 no longer applies. Claims 15 and 16 depend from claim 8 and claim 22 depends from claim 19. For at least the reasons previously discussed, claims 8 and 19 are not anticipated or obvious over Jin and Cheng. Thus, for at least the reason that claims 15, 16 and 22 depend from an allowable base claim, these claims are allowable over the references without rewriting them in independent form as suggested by the Examiner. In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the objection to claims 15, 16 and 22 on this basis.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely 8-9, 11-20 and 22-23, are in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. Questions regarding this matter should be directed to the undersigned at (310) 207-3800.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on January 3, 2006.

J. Svoboda 1/3/06
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